

**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. - 16. (Canceled)

17. (Withdrawn) A method for allocating a memory by assigning blocks of a designated size in a data processing system, the method comprising:

determining whether a request to secure access to a block of memory in the memory from an executing thread is permitted;

accessing a memory allocation table in the memory to determine an address for an available memory block;

designating the next available memory block for the executing thread in response to the request;

updating the memory allocation table to reflect the designation of the available memory block for the executing thread in response to the request; and

coordinating shared access for all executing threads to the memory, wherein at least one other executing thread requests and secures access to other blocks of the memory while the executing thread accesses the available memory block.

18. (Withdrawn) The method of claim 17, wherein designating the available memory block for the executing thread in response to the request includes:

providing the address for an available memory block to the executing thread.

19. (Withdrawn) The method of claim 17, wherein updating the memory allocation table to reflect the designation of the available memory block for the executing thread in response to the request includes:

identifying an address for a new available memory block.

20. (Withdrawn) A computer-readable medium containing instructions for performing a method for allocating shared memory among threads of control in a data processing system, the method comprising:

determining whether a request to secure access to a block of memory in the shared memory from an executing thread is permitted;

accessing a memory allocation table in the shared memory to determine an address for an available memory block;

designating the available memory block for the executing thread in response to the request;

updating the memory allocation table to reflect the designation of the available memory block for the executing thread in response to the request; and

coordinating shared access for all executing threads to the memory, wherein at least one other executing thread requests and secures access to other blocks of the shared memory while the executing thread accesses the available memory block.

21. (Withdrawn) The computer-readable medium of claim 20, wherein designating the available memory block for the executing thread in response to the request includes:

providing the address for an available memory block to the executing thread.

22. (Withdrawn) The computer-readable medium of claim 20, wherein updating the memory allocation table to reflect the designation of the available memory block for the executing thread in response to the request includes:

identifying an address for a new available memory block.

23. (Currently Amended) A system for assigning blocks of memory, the system comprising:

an area of a memory designated for coordinating the assignment of the memory to one or more threads requiring access to the memory, wherein the area including includes usage information reflecting usage of the memory; and

a processor for performing a protocol for serializing access to the memory by the one or more threads based on the usage information, wherein the protocol allows a first thread to access a first designated block of the memory while another thread requests and secures access to another block of the memory.

24. (Original) The system of claim 23, wherein the another thread secures access to the another block of memory based on a token obtained from the area of

memory that was previously used by the thread to secure access to the designated block of memory.

25. (Original) The system of claim 23, wherein the size of the designated block of memory is determined by a user.

26. (Original) The system of claim 23, wherein the another designated block of memory is adjacent to the designated block of memory.

27. (Withdrawn) A method for allocating blocks of a shared memory in a data processing system, the method comprising:

receiving a memory allocation request;

determining whether access to the shared memory is permitted for purposes of the memory allocation request;

identifying a next available memory block in the shared memory in response to the memory allocation request based on a determination that access to the shared memory is permitted for purposes of the memory allocation request; and

designating the next available memory block in response to the request,

wherein the receiving, determining, identifying and designating are performed without accessing an operating system.

28. (Withdrawn) A memory allocating system, comprising:  
a shared memory; and

at least one processor configured to, without accessing an operating system, receive a memory allocation request, determine whether access to the shared memory is permitted for purposes of the memory allocation request, identify a next available memory block in response to the memory allocation request based on a determination that access to the shared memory is permitted for purposes of the memory allocation request and designate the next available memory block in response to the request.

29. (Withdrawn) A computer-readable medium containing computer-readable instructions for performing a method on a data processing system for allocating blocks of a shared memory, the method comprising:

receiving a memory allocation request;  
determining whether access to the shared memory is permitted for purposes of the memory allocation request;  
identifying a next available memory block in response to the memory allocation request based on a determination that access to the shared memory is permitted for purposes of the memory allocation request; and  
designating the next available memory block in response to the request,  
wherein the receiving, determining, identifying and designating are performed without accessing an operating system.

30. (Original) A method, comprising:  
allocating to a first process, without accessing an operating system, a first block of a memory that has a size designated by a user; and

allocating to a second process, without accessing an operating system, a second block of the memory that has a size designated by the user while the first process is accessing the first block of memory.

31. (Original) The method of claim 30, wherein the allocating of the first and second blocks of memory to the first and second processes, respectively, is based on a token obtained from a designated area of the memory.

32. (Original) The method of claim 31, wherein the first and second blocks of memory are consecutive blocks of memory.

33. (Original) The method of claim 31, wherein allocating the first block of memory comprises:

incrementing a value that reflects a location in the memory corresponding to the first block of memory.

34. (Original) The method of claim 33, wherein allocating the second block of memory comprises:

determining the second block of memory based on the incremented value.